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Russian bibliography

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Засыпкина, И.А., Засыпкин, М.Ю. Состав и распределение ручейников, поделок и веснянок (Trichoptera, Ephemeroptera, Plecoptera) в бассейне р. Колыма. В сб.: Матис, Е.Г., Рябухин, А.С., Бухало, С.П. (Ред.) Энтомологические исследования на Северо-Востоке СССР. Биологические проблемы Севера. Сборник научных статей. Часть 1. ДВО АН СССР. Владивосток. 1991. 108 с.: 69-87, 106, 107.

Zasypkina, I.A., Zasyppkin, M.Yu. 1991. Composition and distribution of caddisflies, mayflies and stoneflies (Trichoptera, Ephemeroptera, Plecoptera) in the Kolyma River Basin. In: Matis, E.G., Ryabukhin, A.S., Bukhalo, S.P. (Eds.). Biological problems of the North. Entomological studies in the north-east of the USSR. Collection of scientific papers. Pt. 1. DVO AN USSR: 108 pp. :69-87, 106, 107.

The paper summarizes data on caddisflies, mayflies and stoneflies fauna of the Kolyma river basin. The check list of aquatic insects includes 42 species of caddisflies, 18 of mayflies and 32 species of stoneflies. Data on species ecology and distribution in the Far East are reported; area analysis is given. The conception of amphibiotic insect fauna impoverishment in the north latitudes of the Far East region is discussed.

Засыпкина, И.А. Некоторые аспекты организации сообществ водных организмов (Trichoptera, Ephemeroptera, Plecoptera) в пойменных водоемах р. Колымы в зоне будущего водохранилища Колымской ГЭС. В сб.: Матис, Е.Г., Рябухин, А.С., Бухало, С.П. (Ред.) Энтомологические исследования на Северо-Востоке СССР. Биологические проблемы Севера. Сборник научных статей. Часть 1. ДВО АН СССР. Владивосток. 1991. 108 с.: 88-102, 106, 108.

Zasypkina, I.A. 1991. Some aspects of structure of aquatic organisms communities (Trichoptera, Ephemeroptera, Plecoptera) in the Kolyma flood-land reservoirs in the zone of future Kolyma power station reservoir: 88-102, 106, 108. In: Matis, E.G., Ryabukhin, A.S., Bukhalo, S.P. (Eds.). Biological problems of the North. Entomological studies in the north-east of the USSR. Collection of scientific papers. 1. DVO AN USSR: 108 pp.

Fauna composition of aquatic insects of the Kolyma flood hydroreservoirs in the zone of the Kolyma power station flood, the distribution of caddisflies, mayflies and stoneflies in relation to reservoir types, and the structure of bottom

communities are discussed. Stream fauna peculiarities in the study, area are considered in detail; the conception of biocenotic relations rationality in aquatic ecosystems is discussed.

Іванов, В.Д., Цибульський, А.І. Феромонні ловушки — новий метод виявлення ручейників. І з'їзд гідроекологічного товариства України. Київ, 16-19 листопада 1993 р. Тези доповідей. Київ, 1994, с. 94.

Ivanov, V.D., Tsybulsky, A.I. Pheromone traps — a new method for detection of caddisflies. 1st Congress of the Hydrobiological Society of Ukraine. Kiev, 16—19 October 1993. Abstracts of the presentations. Kiev, 1994: 94.

A brief communication is about the possibilities of attraction of Trichoptera to the pheromone traps designed for other species (e.g., Lepidoptera). Sometimes caddisflies appear during the pheromone screening.

1994

Іванов, В.Д. Насекомые — ручейники (отряд Trichoptera). Методические указания к занятиям по курсу "Систематика насекомых". Санкт-Петербург, СПбГУ, 1994, 63 с.

Ivanov, V.D. Insects — caddisflies (order Trichoptera). Methodical instructions to the course «Insect Taxonomy». St. Petersburg, SPbGU, 1994, 63 с.

A short manual for students describing all aspects of their morphology, anatomy, biology, evolution and taxonomy. Family level full illustrated keys are provided for larvae and adults of Russian fauna.

1995

Аникин, В.В., Малинина, Ю.А. 1995. Фаунистические комплексы ручейников (Insecta, Trichoptera) малых рек и астатических водоемов Саратовского Заволжья — Самарская Лука, № 6: 212-217.

Anikin, V.V., Malinina, Yu.A., 1995. Faunistic complexes of caddisflies (Insecta, Trichoptera) of the small rivers and astatic water bodies of the Saratov Zavolzhie - Samarskaya Luka, № 6: 212-217.

Zavolzhie is the area east to the river Volga. The list of Trichoptera species of the Saratov Zavolzhie (near the Saratov City) has 35 entries. The landscapes there are represented by dry steppe and semi-desert. Small left tributaries of Volga and some temporary pools were studied. The most diverse families are Limnephilidae and Leptoceridae (8 species each). The upper parts of the river current are rather rich in Trichoptera

whereas the middle and lower parts of rivers are inhabited mostly by impoverished lentic fauna (mainly Limnephilidae). The brackish waters of the temporary pools in this area are inhabited by Phryganeidae and (in less amount) by Limnephilidae. *Paduniella uralensis* is reported to occur in Eruslan River source and in the temporary pools in this area; this is the westernmost report of this species (provided that the determinations were correct).

1996

Иванов В.Д., Цибульский А.И., Гуков А.Ю. К фауне ручейников нижней Лены. В кн: Гидробиологические исследования в заповедниках. М., 1996, с. 110-121.

Ivanov, V.D., Tsybulsky, A.I., Gukov, A.Yu. On the fauna of caddisflies of Lower Lena River. In: Hydrobiological studies in nature reserves. M., 1996: 110-121.

The lower parts of Lena River are surrounded by tundra and forest tundra and are protected in Ust-Lensky nature reserve. The faunistic data on caddisflies are summarized for this area. The species composition reveals the mix of West and East Palearctic elements. A new brachypterous morph (subspecies?), *Limnephilus alaicus hyperboreus*, is described. Comparison to the fauna of Tchukotka peninsula reveals large differences, only 7 circumboreal species of 21 are common for the both territories. Annotated species list is given.

Иванов, В.Д., Лаанмаа, М.К., Цибульский А.И. Привлечение ручейников в феромонные ловушки в Усть-Ленском заповеднике. В кн: Гидробиологические исследования в заповедниках. М., 1996, с. 121-128.

Ivanov, V.D., Laanmaa, M.K., Tsybulsky, A.I. Attraction of caddisflies to the pheromone traps in the Ust-Lensky nature reserve. In: Hydrobiological studies in nature reserves. M., 1996: 121-128.

The mass arrivals of caddisflies to the lures designed for Tortricidae and other moths is reported. There were no selective attraction to the synthetic blends. The most abundant species belong to Hydropsychidae and demonstrated aggregation behaviour in traps. Probably the «delta»-type traps were used as shelters at inappropriate conditions in tundra and forest tundra environments in the Lena River delta (North-East Siberia).

1997

Григоренко, В.Н., Иванов, В.Д. Новые данные по фауне ручейников Ленинградской области. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихоптерологического симпозиума. Воронеж, Квадрат, 1997: 3-7.

Grigorenko, V.N., Ivanov, V.D. New data on the fauna of Trichoptera of the Leningrad District. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 3-7.

Data on 17 rare or new for the region species of Trichoptera are given. The species composition of Hydropsyche in the Leningrad District is clarified after the revision of samples from the Zoological Institute of RAS. Six species were excluded from the list; determinations were verified for 3 species. The list of Trichoptera for Leningrad District includes now 174 species; the expected number of species is some 190.

Иванов, В.Д., Григоренко, В.Н. Исследования личинок ручейников фауны России. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихоптерологического симпозиума. Воронеж, Квадрат, 1997: 7-12.

Ivanov, V.D., Grigorenko, V.N. Studies of caddis larvae of the Russian fauna. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997:

The problems of larval determination and association are discussed in conjunction with the new larval keys for Russia to be published recently. The lack of information for more than 50% of species in preimaginal stages makes the key compilation very difficult. The most comprehensive keys by Lepneva appear to include numerous misinterpretations of characters that render these books difficult to use. Some 260 species of the Russian caddisflies are known in preimaginal stages; the reliable determinations are possible for less than 200 of them. Larvae of Trichoptera from Caucasus, Siberia and especially from the Far East are very difficult to determine to the species and sometimes even to the genus level. Larvae in smaller families are better studied than in larger ones. The greatest difficulties make families Hydroptilidae, Hydropsychidae and, especially, Limnephilidae. The association methods

for the characters most useful for the larval descriptions are summarized.

Козлов, А.Т. О качественном различии этоморф личинок ручейников. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 13-16.

Kozlov, A.T. On the characteristic difference in larval ethomorphs in caddisflies. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 13-16.

Ethomorph is the historically based pattern of behaviour at any stage of the life cycle including the sum of the behavioural programs in the given environment typical for the given life form. Every life form has its specific ethomorph incorporating one or several similar behavioural programs. The ethomorphs found in Trichoptera are: Sand Retreat Makers (*M. angustata*, *P. latipennis*); Retreat Makers (*Ph. grandis*, *O. reticulata*); Combinators (*L. stigma*; *L. politus*; *L. flavicornis*); Borers (*Ganonema extensum*); Net-weavers (*N. bimaculata*). Behavioural programs are changeable during ontogenesis within the ethomorph. Levels of the behaviour plasticity are discussed. The life forms having changeable behaviour have advantage in the changing environmental conditions. Fundamental oldest ontogenetic elements for every life form are building of the base particle group; building of the primary ring; selection of the material; attachment of the particle. Differences between potential and actual behavioural programs are illustrated.

Корноухова, И.И. Вопросы происхождения ручейников (Trichoptera) Большого Кавказа. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 16-21.

Kornoukhova, I.I. Questions of origin of caddisflies (Trichoptera) of the Large Caucasus. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 16-21.

The paleontologic evidences from Caucasus (limnephilids from Miocene) do not permit to reconstruct the history of the local fauna. Thus only contemporary composition of the Caucasus fauna of Trichoptera can give clues for the faunistic reconstruction. The history of Caucasus

from the isolated island (Early Paleogen) to SE Europe border (Late Miocene) through Pliocene Crisis and glaciation to its contemporary position is summarized. The beginning of fauna formation started 10 mln. years ago after joining of island to Europe. Five generic groups are found: a) endemic genera (*Badukiella*, *Kelgena*); b) endemics of Caucasus and Turkey (*Martynomyia*; perhaps of Miocene origin); c) widely distributed species represented by local endemics (25 genera from 12 families); d) widely distributed with subendemics (occurring also in adjacent Asia); e) widely distributed genera without endemics. The Miocene fauna is thought to be represented mostly by 3 and 4 groups; the 1 and 5 are probably of Late Pliocene — Early Holocene origin.

Новокшенов, В.П. К познанию палеозойских Protomeropidae — предположительно первых ручейников. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 21-24.

Novokshonov, V.P. On the knowledge of the Paleozoic Protomeropidae — presumably the first caddisflies. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 21-24.

The morphology of Permian family Protomeropidae is summarized according to the recent findings. This family was rather similar to its Paleozoic mecopteran ancestor and shared but few characters with caddisflies. Aquatic larvae of Trichoptera are not known from Paleozoic. The fore wings of Protomeropidae had the anal loop common also for the Trichoptera. Illustrations of wings, terminalia, body, and head are provided. This family should be retained in Trichoptera for the sake of system stability.

Потиха, Е.В. Фауна ручейников (Trichoptera) Среднего Сихотэ-Алиня. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 24-33.

Potikha, E.V. Fauna of caddisflies (Trichoptera) of the Middle Sikhote-Alin. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 24-33.

Materials collected in 1991–1996 in and around a nature reserve at the Middle Sikhote Alin mountain

Materials collected in 1991–1996 in and around a nature reserve at the Middle Sikhote Alin mountain range (Far East Russia) are summarized.

Annotated list of 66 species (representing 36 genera, 18 families) of the Sikhote Alin Biosphere Nature Reserve is included. Species of Rhyacophilidae (9 spp.), Glossosomatidae (8 spp.) and Limnephilidae (17 spp.) prevail in samples. The local fauna looks impoverished in comparison to the adjacent areas because of the rhitral and crenal character of most streams. Early spring and late autumn fauna is less studied; 20 species are marked as new for the area.

Рожкова, Н.А., Матвеев, А.Н. Ручейники в биоценозах притоков озера Байкал. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихоптерологического симпозиума. Воронеж, Квадрат, 1997: 33–36.

Rozhkova, N.A., Matveev, A.N. Caddisflies in the biocenoses of Lake Baikal tributaries. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 33–36.

Stream fauna of Trichoptera in the regions adjacent to the Lake Baikal contains 110 species (16 families); data on 4 species of caddisflies found in the bird stomachs as well as species collected from boats at the Lake Baikal and 5 spp. (*H. dubius*, *C. fennicus*, *B. americanus*, *M. interjectus*) reported by Chvoika (1995) are not counted. There are 37 species recorded only as imago; new findings of *Glossosoma ussurica* and *Nemotaulius punctatolineatus* are absent. Species numbers for the local fauna are given for families found in the territory. The species-richest families are Limnephilidae (40 spp.), Leptoceridae (16 spp.), Phryganeidae (10 spp.), Rhyacophilidae (7 spp.). Most species have wide Palearctic distribution; the Baikal endemics do not occur in streams. Numeric data on abundance and biomass are given; variability of these parameters is discussed. Presence of Trichoptera in drift makes 1.2–3.8% of specimens (11.7–12.4% total biomass); larvae of Limnephilidae are dominant. The role of local caddisflies (mostly Integripalpia) as fish food in different seasons is discussed.

Силина, А.Е., Савицкий, Б.П. К фауне и экологии ручейников (Trichoptera) Белорусского Полесья. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского

трихоптерологического симпозиума. Воронеж, Квадрат, 1997: 37–41.

Silina, A.E., Savitsky, B.P. On the fauna and ecology of caddisflies (Trichoptera) of the Belorussian Polesie. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 37–41.

Trichoptera were collected by conical floating traps (1 m²) from Berezina River and from an adjacent lake; the benthos samplings were also made. The samples were collected from 03.06.1985 to 31.08.1985 three times each decade. The data were ranged according to the benthic communities. Totally 18 species of caddisflies were found; the great majority of them were *Neureclipsis bimaculata* (total abundance 50%), *Hydropsyche contubernalis* (28.8%), *Athripsodes aterrimus* (8.4%). The last species and also *Cyrnus flavidus* and *Ceraclea fulva* are the lake dominants, although the biomass transfer from lake to land communities is made mostly by larger *Agrypnia obsoleta* and *C. fulva*. Variations in species composition and seasonality are discussed; data on biomass transfer from aquatic to land biocenoses by caddisflies are given. The daily biomass output transferred from Berezina River is 39.2 mg/m² (51.5% of all insect-transferred biomass). The figures for lake are more than 3 times less.

Синиченкова, Н.Д. Формирование современных морфоэкологических типов нимф водных насекомых (на примере веснянок) в триасовое время. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихоптерологического симпозиума. Воронеж, Квадрат, 1997: 42–45.

Sinichenkova, N.D. Formation of the modern morphoecological types of aquatic insect nymphs (on the example of stoneflies) in the Triassic times. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 42–45.

Triassic insects are poorly studied; the aquatic biota during Triassic adopts the typical Mesozoic appearance after the Late Permian extinction. The Paleozoic aquatic larvae inhabited stream environments; the lentic species appeared in Triassic. All findings are dated as Late Triassic. The lake ecosystems have differentiated in Triassic. History of 3 morphoecological types of stonefly (Plecoptera) nymphs in Early Mesozoic is discussed; 2 of these types survived, whereas the

slender pelophilous larvae of Mesoleuctridae extincted. The lake biocenoses at this time were very peculiar: these «hypotroph» waters have no analogs in recent times. They were warm and rich in oxygen, inhabited by stream-dwellers of later times. It is anticipated that the antibiotic properties of *Ginkgo* and other plant litter prevented the rotting of benthos organic matters.

Сукачева, И.Д. Особенности фауны ручейников (Trichoptera) раннего мела Англии. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 46-51.

Sukatcheva, I.D. Peculiarities of the Early Cretaceous caddisflies (Trichoptera) fauna of England. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 46-51.

Purbeck and Wealden beds of England are dated as uppermost Jurassic — early Cretaceous. Caddisflies discussed in the paper were found in upper (Late Barrem) part of these beds and thus contemporary to the Asian localities. The peculiar features of this fauna are the combination of Jurassic Eurasian families (Necrotauliidae, Dysoneuridae) with Cretaceous Asiatic Vitimotauliidae, and the presence of recent families Lepidostomatidae, Calamoceratidae, Plectotarsidae, Phryganeidae, and (?)Helicophidae, with new species-poor genera. The rare caddis cases are not taken into account. The fossil wings found were small (<10 mm, mostly 5-6 mm), except for larger Phryganeidae (up to 15 mm). The fore wings of Lepidostomatidae and Calamoceratidae combine primitive and advanced features in venation. The West Europe that time was an archipelago with small lentic and slow lotic environments. The similarity in environmental types of Jurassic lakes of Western Europe and Asia and Low Cretaceous of England could cause the faunistic resemblance. The Cretaceous lakes of Asia were large and flat representing different fauna. Small size and morphologic anomalies are probably caused by effects of island isolation. Vitimotauliidae and other Integripalpia are dominant everywhere in Europe and Asia during Low Cretaceous.

Хренников, В.В., Шустов, Ю.А. Личинки Trichoptera как основное звено в трофической цепи экосистемы порожистых рек и их значение в питании молоди лосося. В сб: Проблемы происхождения, систематики и экологии

ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 51-55.

Khrennikov, V.V., Shustov, Yu.A. Larvae of Trichoptera as the main unit in the trophic chain of the rapid rivers and their role in the salmon immatures feeding. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 51-55.

The role of Trichoptera for fish feeding in the salmon rivers of Karelia is described. The preferred nutritional source is insect drift; the deficiency of drift caused the feeding shift to the bottom fauna. Family composition of the local Trichoptera fauna is summarized; the most species-rich families are Limnephilidae, Leptoceridae, Hydroptilidae. Role of lakes as feeding source for the river insects is high in the case when the river originates from lake. The analysis shows the absence of competition for food between different *Hydropsyche* species (*H. instabilis*, *H. angustipennis*, *H. pellucidula*) in the areas close to the lake source of organic drift (50–70% animal plankton in food of larvae). Early instars of *H. instabilis* have the domination of fine detrital particles in food. Presence of Simuliidae provokes the carnivorous feeding in different caddis families (incl. Hydropsychidae, Arctopsychidae). The feeding of salmon on Hydropsychidae provides better fat acid balance (especially linolenic acid) than artificial food diet; highest amount of this acid in Hydropsychidae makes these insects the best feeding resource of all aquatic invertebrates.

Черчесова, С.К., Бязырова, А.Т. Ручейники в литореофильном биоценозе бассейна реки Терек. В сб: Проблемы происхождения, систематики и экологии ручейников России и сопредельных территорий. Материалы V Всероссийского трихотерологического симпозиума. Воронеж, Квадрат, 1997: 55-59.

Cherchesova, S.K., Byazyrova, A.T. Trichoptera in the lithoreophilous biocenosis of River Terek. In: Problems of origin, systematics, and ecology of caddisflies of Russia and adjacent territories. Proceedings of V All-Russian Trichopterological Symposium. Voronezh, Kvadrat, 1997: 55-59.

The basin of River Terek (North Caucasus) is characterized. Most rivers have mountain origin with glacial spring/summer floods. Trichoptera were sampled in 1986–1995; their mass represents 31.1% of all animals (2nd place after mayflies with 46.6%). Different insect orders are characterized

as sample representatives in Terek basin.

Trichoptera have 25 species (12 genera, 8 families) in the local fauna. Most abundant by biomass are Hydropsychidae (43.4%), Glossosomatidae (21.8%), Limnephilidae (15.4%), Rhyacophilidae (13.2%), Hydroptilidae (4.1%), Philopotamidae (1.3%), Polycentropodidae (0.7%), Lepidostomatidae (0.1%). The richest fauna occurs in northern mountain area (45 sp. of Trichoptera among others). Trichoptera (especially Glossosomatidae) are dominants in brooks; Ephemeroptera abundant in rivers. The rivers with glacial feeding have smaller species numbers than rivers with subterranean feeding. Lithorheophilous species prevail in the area.

Новокшонов В.Г. Ранняя эволюция скорпионниц (Insecta: Panorpida). Москва, Наука, 1997. 140 с.

Novokshonov, V.G. Early evolution of scorpionflies (Insecta: Panorpida). Moscow, Nauka, 1997. 140 p.

The book about the origin and evolution of Mecoptera includes a chapter on Paleozoic Amphiesmenoptera (Trichoptera) as an offshoot of Mecoptera evolution lineage. The data on morphology and taxonomy are reviewed and revised. As a result, the number of species decreased and some genera and families are synonymized. The Amphiesmenoptera and Antliophora are regarded as phyla evolved from early Mecoptera thus render the latter order the paraphyletic group. Peculiarities of the author's taxonomic methods are the changes of diagnoses based on remnants dissimilar from holotypes, the wide treatment of variability and overestimation of fossilization influences to the morphology of fossil insects. The Paleozoic Amphiesmenoptera seems to be the terrestrial insects. The morphology of most ancient Protomeropidae is similar to some Mecoptera in most features except the presence of the fore wing anal loops. Some structures (e.g., Carpenter organs on the wings) were the same as in enigmatic Kaltanidae, the family that could give rise to all Mecopteroidea. Numerous pictures and photographs are provided.

Арефина, Т.И., Вшивкова, Т.С., Иванов, В.Д., Ито, Т., Леванидова, И.М., Морз, Дж., Ниммо, А., Янг, Л.Ф. Отряд Trichoptera — ручейники. В кн.: Лер П.А. (ред.) Определитель насекомых Дальнего Востока России. Т. V. Ч. 1. Ручейники и чешуекрылые. Владивосток, Дальнаука, 1997, 539 с.: 10-206.

Arefina, T.I., Vshivkova, T.S., Ivanov, V.D., Ito, T., Levanidova, I.M., Morse, J., Nimmo, A., Yang, L.F. Ordo Trichoptera — caddisflies. In: Ler A.P. (Ed.) Keys to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt. 1. Vladivostok, Dal'nauka, 1997. 539 p.:10-206.

Multi-author keys (with separate authorship for families) for the determination of adult Trichoptera of North-East Palearctic. Most keys provide reliable species determinations only for males. Introduction with morphological overview, diagnoses for families and genera, and numerous illustrations (mostly wings and genitalia) are provided.

1998

Сукачева, И.Д. Памяти Ольги Михайловны Мартыновой (1900-1997). Бюлл. Моск. Общ-ва Испытателей природы, отд. геологии, 1998, т. 73 (6): 66-69.

Sukatcheva, I.D. In memory of Olga Mikhailovna Martynova (1900-1997). Bull. Moscow Obschestva Ispytatelei Prirody, div. geology, 1998, vol. 73 (6): 66-69.

Life and works of O.M. Martynova, well known Russian paleoentomologist and the wife of A.V. Martynov are briefly described. The list of articles published by her is provided. She was a wonderful woman, very clever and kind.

Данькова, Н.В., Иванов, В.Д. К изучению гидроптилид (Trichoptera, Hydroptilidae) Кольского полуострова. Проблемы энтомологии в России. Сб. научных трудов. СПб, 1998. Т. 1: 110-111.

Dankova, N.V., Ivanov, V.D. Contribution to the study of hydroptilids (Trichoptera, Hydroptilidae) of the Kola Peninsula. In: Problems of Entomology in Russia. Collection of scientific proceedings. S-Petersburg, 1998. Vol. 1: 110-111.

Short abstract of the presentation at the Congress of the Russian Entomological Society. Hydroptilidae were not listed before for the Kola peninsula. First records for *Oxyethira boreella* and *O. klingstedti* in Russia are reported among 7 species (Mainly *Oxyethira*) found in the region.

1999

Иванов, В.Д., Мельницкий, С.И. Строение стернальных феромонных желез ручейников (Trichoptera). Энтомол. обозр., 1999, т. 78, вып. 3, с. 505-526.

Ivanov, V.D., Melnitsky, S.I. Structure of the sternal pheromone glands of caddisflies (Trichoptera). Entomol. Obozrenie, 1999, vol. 78, 3: 505-526.

Sternal pheromone glands were studied in 106 species of Trichoptera from 24 families

representing all major evolutionary lines. There are 4 types of glands found in caddisflies: 1) ampulliform glands: the most common type of elongate shape; the gland having the widened reservoir smoothly turning to the thin duct in a narrow stalk (Rhyacophilidae, Glossosomatidae, Hydroptilidae, Hydrobiosidae, Polycentropodidae, Stenopsychidae, partly Hydropsychidae); 2) sacculous glands: small spheroid glands with reduced duct; this type is obviously derived from the former, occurring in Beraeidae, Molannidae, Sericostomatidae, Phryganopsychidae, Phryganeidae, Brachycentridae, partly in Hydropsychidae; 3) kidney-shaped gland having dilated reservoir with thin ducts originating in the pit; this type is characteristic for Limnephilidae, Uenoidae and partly for Apataniidae; 4) window glands: the layers of secretory epithelium covering the wide areas of thin sternal cuticle («fenestrae») without reservoir, duct and duct opening (probably the most primitive type found only in some Philopotamidae among Trichoptera). The same types of glands occur in lower Lepidoptera. The serial origin of glands is demonstrated. Strong development of sternal glands in both sexes occur in certain primitive families (Rhyacophilidae, Glossosomatidae, etc.) whereas the reduction of glands is typical in more advanced taxa. Some families (Goeridae, Lepidostomatidae, Odontoceridae, Leptoceridae) devoid of these glands in both sexes, in others (Beraeidae, Molannidae, most of Philopotamidae) the glands are developed in females. The reduction of glands in one sex is associated probably with the decrease of their protective significance and the development of non-pheromone stimuli for communication in dense populations. The dorsolateral sternal projections associated with glands in some families evolves independently in several cases and do not belong to the ground plan of Amphiesmenoptera.

Иванов, В. Д., Кривохатский, В. А. Наземные членистоногие. Биоразнообразие Ленинградской области (Водоросли. Грибы. Лишайники. Мохообразные. Беспозвоночные животные. Рыбы и рыбообразные). Труды СПб о-ва естествоиспытателей. СПб, 1999. Сер. 6, том 2, 427с.: 339-396.

Ivanov, V.D., Krivokhatsky, V.A. Terrestrial invertebrates. Biodiversity of the Leningrad Region (Algae. Fungi. Lichens. Bryophytes. Invertebrates. Fishes and pisciformes). Transactions of the St. Petersburg Naturalists Society. Ser. 6, Vol. 2. 427p.: 339-396.

The book summarizes data on different groups of organisms, including Trichoptera. The full

contemporary list of caddisflies and short history of study of the local fauna are included. The endangered species are shown in the species list. The fauna of Leningrad District counts 174 species of Trichoptera.



Book Review

Las larvas de los Tricópteros de Galicia (Insecta: Trichoptera) [The larvae of the Galician Trichoptera (Insecta: Trichoptera)]

In May 2000, the PhD. thesis of Rufino Vieira Lanero was presented at the University of Santiago de Compostela, where it was carried out under the direction of Drs. M. González and F. Cobo. A copy of this thesis was presented at the Symposium held in Potsdam and, recently, it won the „Premio Nacional de Investigación de la Real Academia de Doctores de España“ (National Award of Investigation of the Royal Spanish Academy of Doctors) under the speciality of „Freshwater and Marine Biology“.

This thesis is an important step forward towards a better knowledge of the Iberian caddis larvae. It is fundamentally a taxonomic study to improve substantially the knowledge of the Trichoptera larvae of Galicia (NW Spain), a fauna that presently numbers 147 species, most of them endemic and with a high conservation value.

In four introductory chapters are, respectively, a historical review of the primary literature about this group of insects in the Iberian Peninsula and Galicia; a detailed review of larval morphology, larval constructions and nomenclature, together with a synthesis of larval biology and ecology; a chapter on phylogenetics and systematics; and a last chapter on materials, methods and identification techniques.

The main part of the paper (a chapter titled “faunistic results”) gives new and accurate descriptions of 38 undescribed larvae and larval constructions in particular groups. These descriptions are the result of the author’s research from 1994 to 1999 and are based on the study of 45.262 specimens belonging to 19 families, 56 genera and 111 species, from 124 Galician sampling sites and collected over the last 20 years. This chapter includes all the Iberian families and genera and begins with a profusely illustrated larval key at family level. Following that, all the Iberian families and genera are discussed in systematic order. The descriptions are illustrated in detail and include original colour photographs of the main diagnostic characters, both of larvae and of larval constructions. The affinities of every described species are analysed in the general context of the Iberian and European fauna. In addition, some larvae are redescribed to show new morphological features of special taxonomic value, and original observations are included for several previously known species. Different identification keys were elaborated, all them profusely illustrated, to synthesise the taxonomic information and, mainly, to facilitate the identification of the Galician Trichoptera larvae. To make them more useful, the keys to families and genera include all the taxa represented in the Iberian Peninsula. Also, after the itemised study of each family, an identification key is provided for all the well-known larvae of the Galician species of that family. Because so many specimens were studied from so many sampling localities, this work greatly improves knowledge of the Galician distributions of numerous species.

Finally, although the study of larval biology was not the main objective of the research, some observations were made. Thus, the notes included on biology and ecology of those species whose larvae are described for the first time are, obviously, absolutely novel. Moreover, we have made a critical review of the existing information on larval biology and ecology of all the Galician species (feeding, life history, ecological preferences, etc.), which we have compared with the results of our own observations.

Marcos González